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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,221	06/20/2003	Makoto Hasegawa	088941-0205	9073

22428 7590 08/04/2005

FOLEY AND LARDNER
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EXAMINER

SCHNEIDER, JOSHUA D

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,221

Applicant(s)

HASEGAWA, MAKOTO

Examiner

Joshua D. Schneider

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 8-12 have been considered but are moot in view of the new ground(s) of rejection. Applicant has made amendments that require the new rejections. A new rejection has now been provided to meet the limitations of the new and amended claims.
2. With regards to the rejection of claim 12, applicant has argued that the rejection is not valid because the limitations to a multiplexing selector and to the USB hub were rejected using the same teaching of a USB hub. However, Applicant should be well aware that as USB is a time-multiplexed bus, it is inherent that any USB hub is a selector that multiplexes a USB signal.
3. With regards to the argument that the elimination of the extra converters is not taught by the Leung or the AAPA, Applicant is referred to MPEP § 2144.04. It would have been obvious to one of ordinary skill in the art at the time of invention to eliminate undesired converters in order to eliminate the associated parts size and cost from the device.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) in further view of U.S. Patent 5,645,434 to Leung.

6. With regards to claim 8, the AAPA teaches a USB connector to transmit and receive the USB signal between the USB interface and the electrical/electronic product (Fig. 9, element 104), a conversion circuit to convert the USB signal into an external interface signal that is transmitted to and received from the general peripheral device (Fig. 9, elements 106-1 through 106-4), a selector connected between said USB connector and said conversion circuit and responsive to a status signal (Fig. 9, element 105), at least one external interface connector for transmitting and receiving a converted USB signal between the general peripheral device and the USB interface (Fig. 9, element 110), and at least one expansion connector to connect the USB signal to at least one other USB interface (Fig. 9, element 103). The AAPA is not explicit about the USB interface providing said status signal to said selector, and in response thereto, said selector multiplexing said USB signal between the conversion circuit and the at least one other USB interface. However, it is inherent to the use of USB, as defined by the USB specification, that status signals must be sent between the USB devices and the USB hub to which they are attached. By connecting a second copy of the USB device shown in Fig. 9, the AAPA teaches said second USB interface comprising; a second a USB connector to transmit and receive the USB signal between the second USB interface and the electrical/electronic product (Fig. 9, element 104), a second conversion circuit to convert the USB signal into a second external interface signal that is transmitted to and received from a second general peripheral device (Fig. 9, elements 106-1 through 106-4), a second selector connected between said second USB connector and said second conversion circuit and responsive to a second status signal a second external interface connector for transmitting and receiving a second converted USB signal between the second general peripheral device and the second USB interface (Fig. 9, element

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105), and a second expansion connector for directly connecting the second USB signal to the at least one expansion connector of said first USB interface (Fig. 9, element 103). Further limitations are addressed below with regards to all of claims 8, 12, and 13.

7. With regards to claims 12 and 13, the AAPA teaches 1) at least one first USB interface and at least one second USB interface each being modular units inter-connectable to each other (Fig. 9, elements 100 and 108), 2) said first USB interface comprising: a) a first USB connector to transmit and receive the USB signal between the electrical/electronic product and the first USB interfaces (Fig. 9, element 104), b) an first expansion connector for connecting said first USB interface to said second USB interface (Fig. 9, element 103); c) a first external interface connector for transmitting and receiving between the general peripheral device and the first USB interface (Fig. 9, elements 109-1 through 109-4), d) a conversion circuit to convert the USB signal into an external interface signal that is transmitted to and received from the general peripheral device (Fig. 9, elements 106-1 through 106-4); and e) a selector connected between said USB connector and said conversion circuit for multiplexing said USB signal between said conversion circuit and said first expansion connector (Fig. 9, element 105). While the AAPA does not teach what the second interface constitutes, it is inherent from the use of the USB bus, that the second interface could be any type of USB device. For the purpose of this claim, it could be simply USB unit 100 as depicted in Fig. 9. Therefore, the AAPA also teaches said second USB interface comprising: a) a second USB connector to transmit and receive the USB signal between the electrical/electronic product and the second USB interfaces (Fig. 9, element 110), b) an second expansion connector for connecting said second USB interface to said first USB interface (Fig. 9, element 105); c) a second external interface connector for transmitting and

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receiving between the USB peripheral device and the second USB interface (Fig. 9, element 103), and d) a hub to transmit the USB signal to said second external interface connector and to said second expansion connector for feeding said USB signal to said conversion circuit of said first USB interface (Fig. 9, element 105). It would have been obvious to one of ordinary skill in the art at the time of invention that the exterior USB unit 108 could be a USB unit 100, as the items would have to be usable together to meet the requirements of the tree structure set out in the USB specification.

8. With further regards to claims 8, 12, and 13, the AAPA also includes multiple conversion circuits instead of a single conversion circuit. However, omission (or deletion) of an element and its function is obvious if the function of the element is not desired. *Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989). See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975). It would have been obvious to one of ordinary skill in the art at the time of the invention to eliminate any unnecessary conversion devices from the hub when they are not needed. The AAPA also fails to teach the use direct connection between expansion connectors without the use of a cable. Leung teaches that it was known at the time of invention to eliminate the need for cables by using direct connections in stackable component arrangements (see Fig. 4A and abstract). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the direct connections without cables of Leung with the USB conversion units of the AAPA in order to create a USB system without the delays, costs, and interferences associated with cables.

9. With further regards to claim 13, Leung teaches that it was known at the time of invention to eliminate the need for cables by using direct connections in stackable component

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arrangements (see Fig. 4A and abstract). Leung teaches the use of connectors on top and bottom of the communications devices to allow connections on multiple modular units (see Fig. 4A and 4B). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the direct connections without cables of Leung with the USB conversion units of the AAPA in order to create a USB system without the delays, costs, and interferences associated with cables.

10. With regards to claims 9, 10, and 11, the AAPA does not that the at least one external interface connector is a parallel interface, a PS/2 interface, and a LAN interface. However, the AAPA does teach that it was well known in the art to use a USB to connect a keyboard, a mouse, a printer, a modem, and the like, through traditional connections and converters. It is notoriously well known that these devices use parallel, PS/2, and LAN interfaces. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the well known parallel, PS/2, and LAN interfaces with the AAPA USB conversion hub in order to create a hub that is usable with commercially available computer products for greater compatibility.

Conclusion

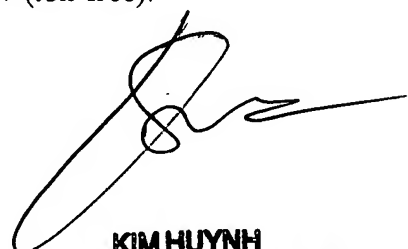
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Schneider whose telephone number is (571) 272-4158. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272-4083. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDS



KIM HUYNH
PRIMARY EXAMINER
8/2/05